Exhibit 4 to the Original Complaint.

U.S. Patent No. 8,936,190 v. Hoffmann-La Roche

Exhibit 4 to the Original Complaint.

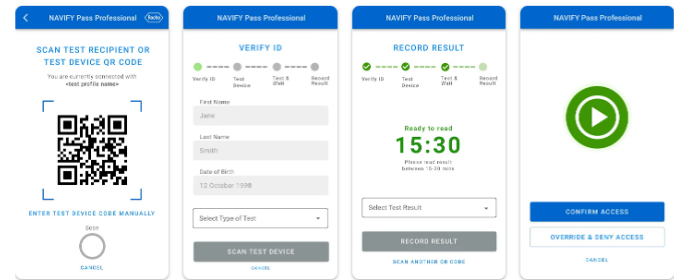## 1. Claim Chart

Claim	Analysis
[1.P] A method, comprising:	Hoffmann-La Roche ("Company") performs and induces others to perform a method for enabling an electronic device to retrieve and display information by detecting the symbology. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, the Company provides a 'NAVIFY Pass Professional' mobile application for allowing/denying access to a visitor by authenticating a QR code displayed on a 'NAVIFY Pass' mobile application. Particularly, 'NAVIFY Pass Professional' mobile application (authenticators or user's application) is installed on an authenticator's (user) device such as, a mobile phone and tablet, and the 'NAVIFY Pass' mobile application (visitor's application) is installed on a visitor's device. Source: https://play.google.com/store/apps/details?id=com.rochedhs.nrm.passport.nurse&hl=en_IN&gl=US

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Source:
https://play.google.com/store/apps/details?id=com.rochedhs.nrm.passport.patient&hl=en_IN&gl=US

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Symbology (QR code) displayed on NAVIFY Pass mobile application (visitor's interface)

Source:
https://play.google.com/store/apps/details?id=com.rochedhs.nrm.passport.patient&hl=en_IN&gl=US
(Annotated)

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Exhibit 4 to the Original Complaint.

Scanning of QR code in 'NAVIFY Pass Professional' mobile application (authenticator's interface)

QR code displayed on NAVIFY Pass mobile application (visitor's interface)

Source: https://www.wellbeing365.com.au/wp-content/uploads/2021/10/NAVIFY-Pass-Brochure-.pdf, Page 2 (Annotated)
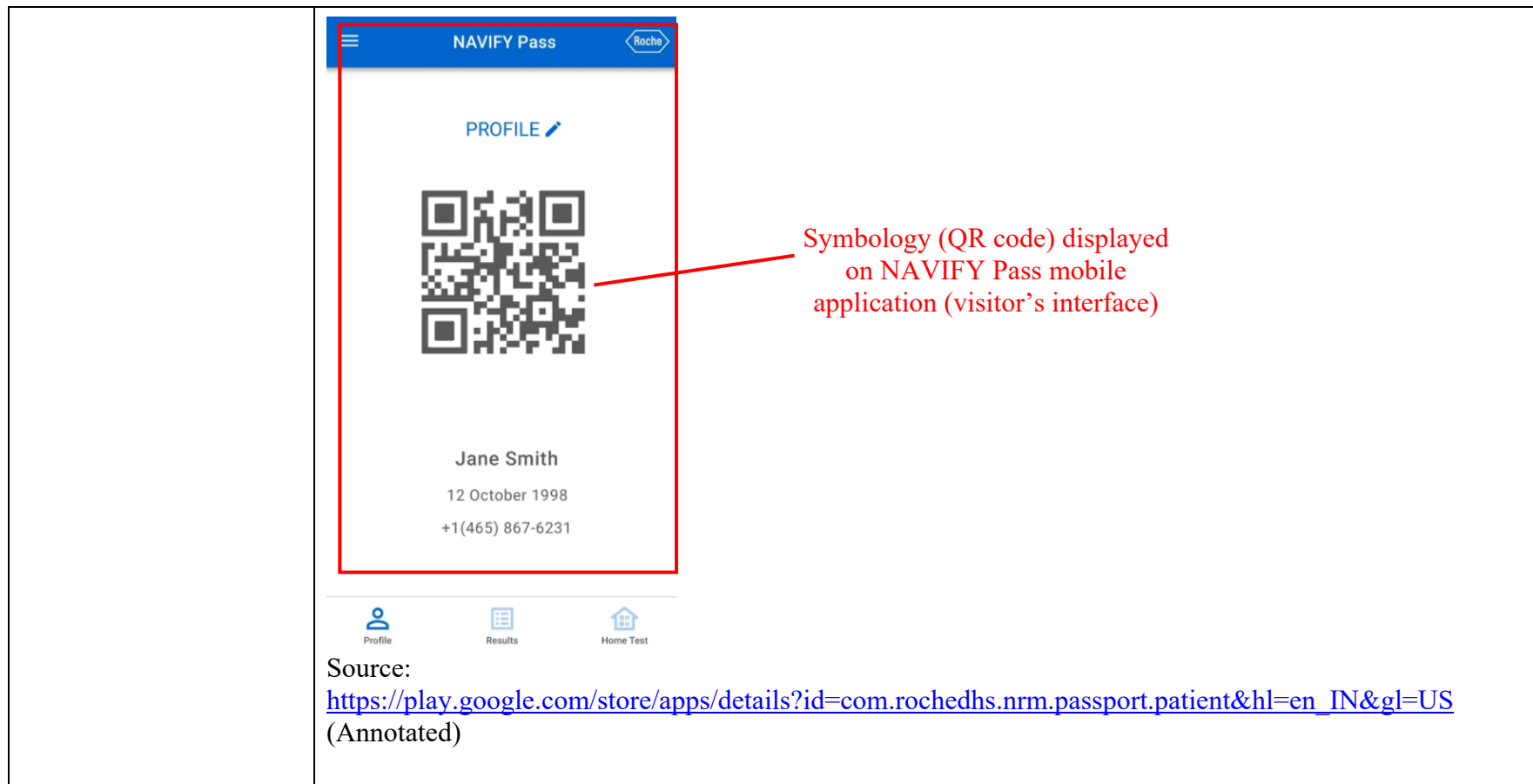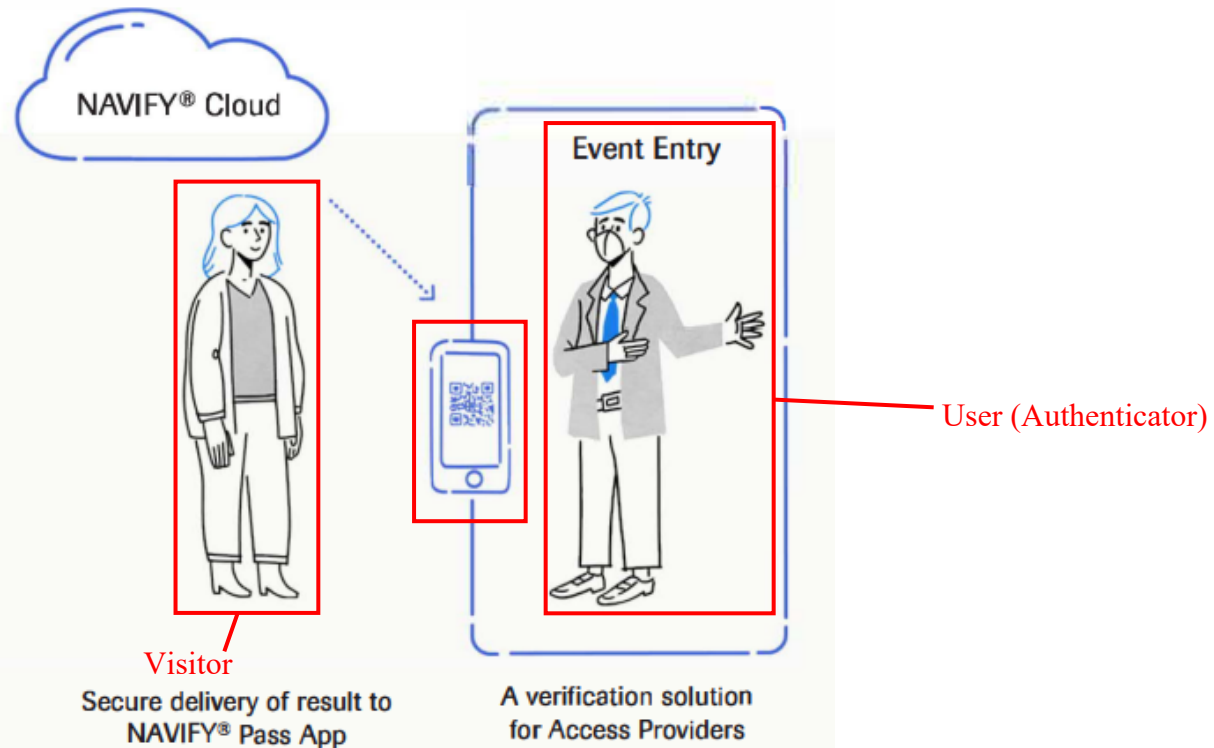
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Exhibit 4 to the Original Complaint.

NAVIFY Pass Pro Access can be used in the near future to verify **test results at the door of an event or meeting.**
Source: https://diagnostics.roche.com/nl/en/innovation/navify-pass.html

Source: https://www.wellbeing365.com.au/wp-content/uploads/2021/10/NAVIFY-Pass-Brochure-.pdf, Page 2 (Annotated)

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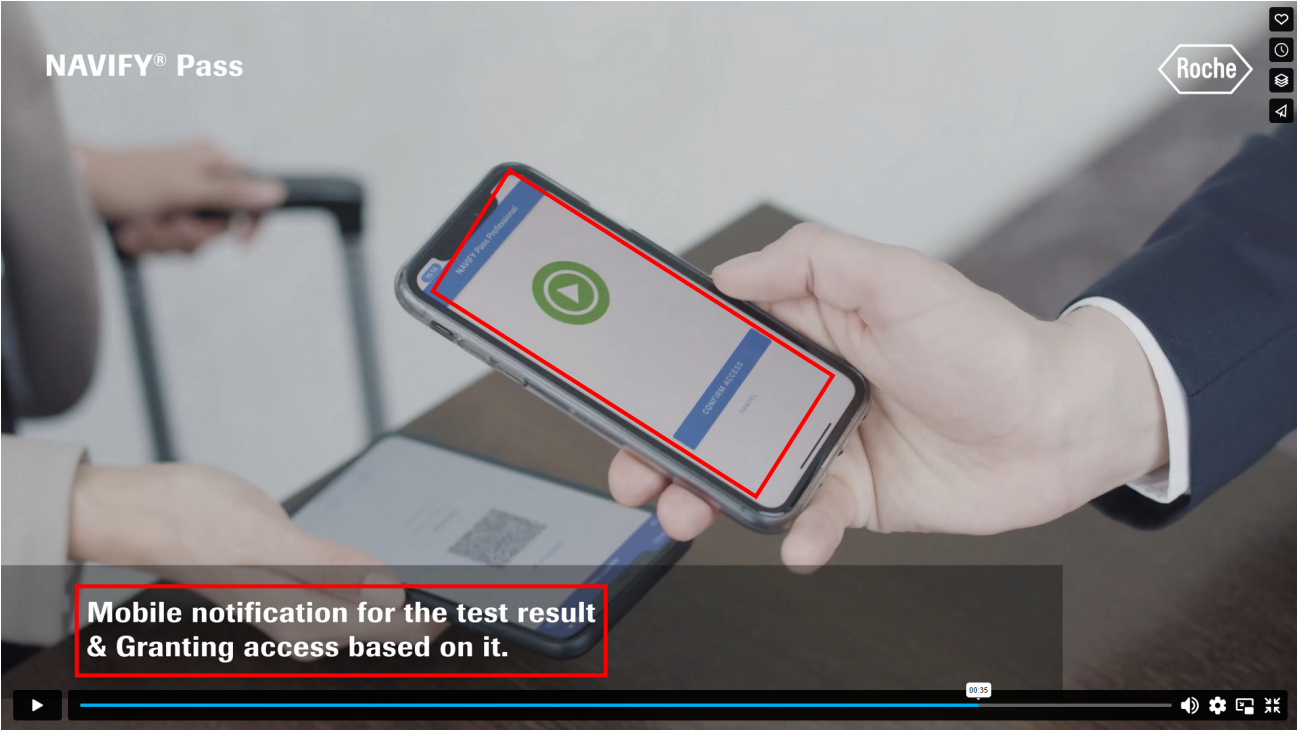|	
	Event Management Tool • Event entry can be managed by predefined entry criteria • NAVIFY® Pass users can display their personal QR code as authentication • NAVIFY® Pass users can display their approved entry without sharing personal information such as test or vaccination details Source: https://www.wellbeing365.com.au/wp-content/uploads/2021/10/NAVIFY-Pass-Brochure-.pdf, Page 2

Exhibit 4 to the Original Complaint.

Source: https://vimeo.com/538550959

Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Defendant.

[1.1] capturing a digital image using a digital image capturing device that is part of an electronic device;	Company performs and induces others to perform the step of capturing a digital image using a digital image capturing device that is part of an electronic device. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, the 'NAVIFY Pass Professional' mobile application allows a user to capture and scan the QR code image ("digital image") available on the visitor's application through a built-in camera ("digital image capturing device") of the user's mobile phone ("electronic device") for allowing/denying access.

Exhibit 4 to the Original Complaint.

Source: https://www.youtube.com/watch?v=wCUivFJHAc0 (Annotated)

Exhibit 4 to the Original Complaint.

Capturing an image in 'NAVIFY Pass Professional' mobile application (authenticator's interface)

Image displayed on NAVIFY Pass mobile application (visitor's interface)

Source: https://www.wellbeing365.com.au/wp-content/uploads/2021/10/NAVIFY-Pass-Brochure-.pdf, Page 2 (Annotated)

Exhibit 4 to the Original Complaint.
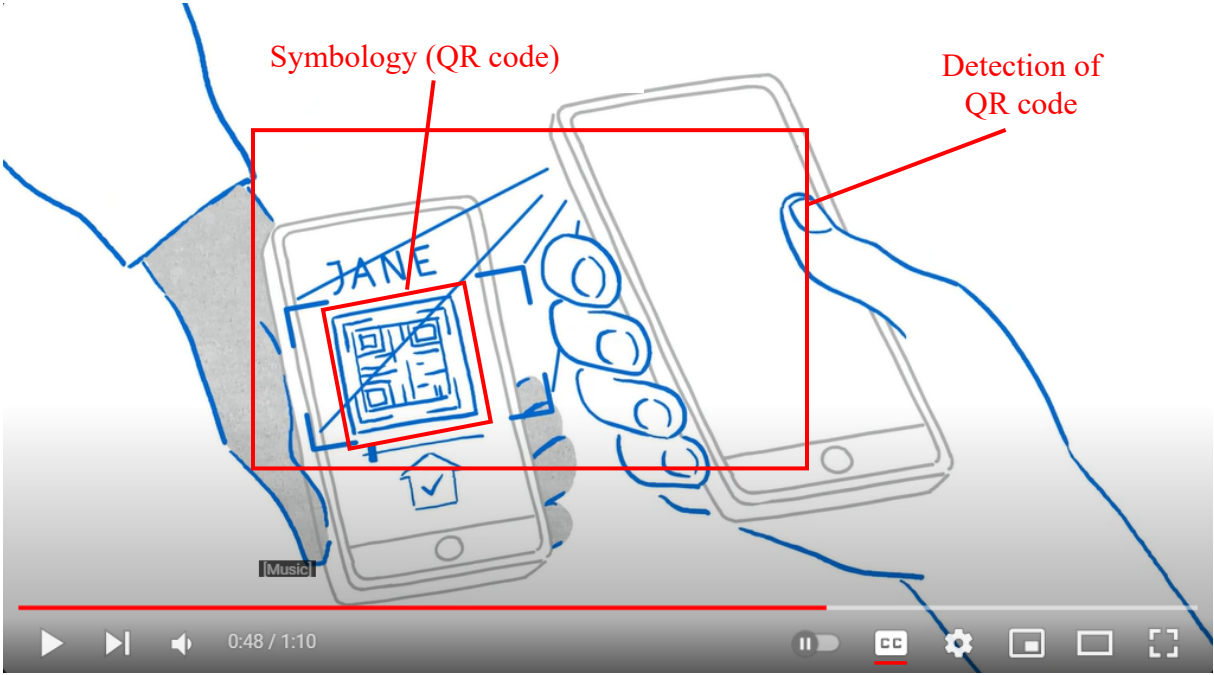
	Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Defendant.
[1.2] detecting symbology associated with the digital image using the electronic device;	Company performs and induces others to perform the step of detecting symbology associated with the digital image using the electronic device. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, 'NAVIFY Pass Professional' mobile application allows the user to capture an image of 'NAVIFY Pass' mobile application's interface through build in camera of user's mobile phone. Further, the 'NAVIFY Pass Professional' mobile application detects and scan the QR code ("symbology") from the digital image displayed on the 'NAVIFY Pass' mobile application's interface. Source: https://www.youtube.com/watch?v=wCUivFJHAc0 (Annotated)

Exhibit 4 to the Original Complaint.

Capturing an image in 'NAVIFY Pass Professional' mobile application (authenticator's interface)

Image displayed on NAVIFY Pass mobile application (visitor's interface)

Source: https://www.wellbeing365.com.au/wp-content/uploads/2021/10/NAVIFY-Pass-Brochure-.pdf, Page 2 (Annotated)

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	Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Defendant.
[1.3] decoding the symbology to obtain a decode string using one or more visual detection applications residing on the electronic device;	Company performs and induces others to perform the step of decoding the symbology to obtain a decode string using one or more visual detection applications residing on the electronic device. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, the 'NAVIFY Pass Professional' ("visual detection applications") mobile application installed ("residing") on the mobile phone ("electronic device") scans the QR code and decodes it at the backend. Further, the scanning involves interpretation of the black and white patterns of the QR code to extract the embedded data. The extracted data is converted into a machine-readable data which contains a unique identifier ("decode string") that corresponds to the user's account. Therefore, it would be apparent to a person of ordinary skill in the art that the NAVIFY Pass Professional mobile application decodes the QR code to obtain the unique identifier at the backend that corresponds to the test results of a visitor for allowing/denying access.

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Source: https://www.youtube.com/watch?v=wCUivFJHAc0 (Annotated)
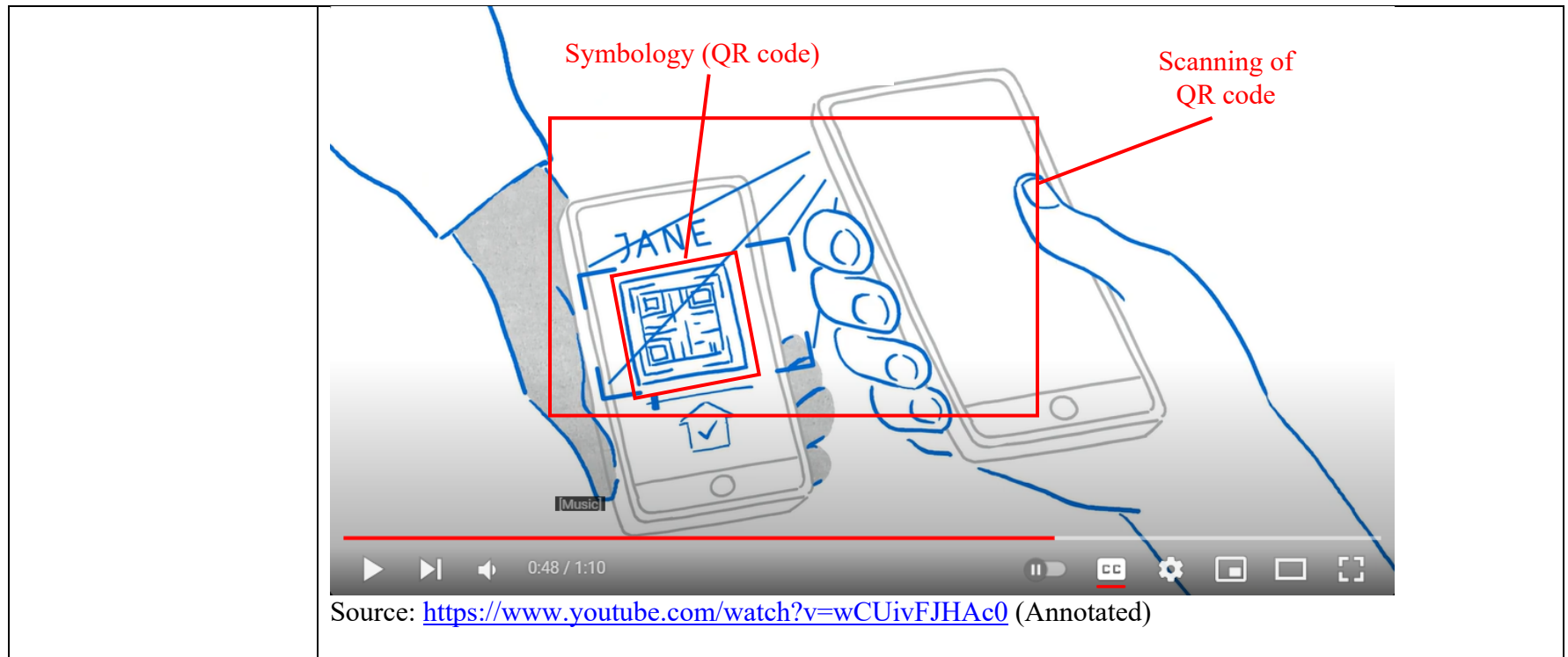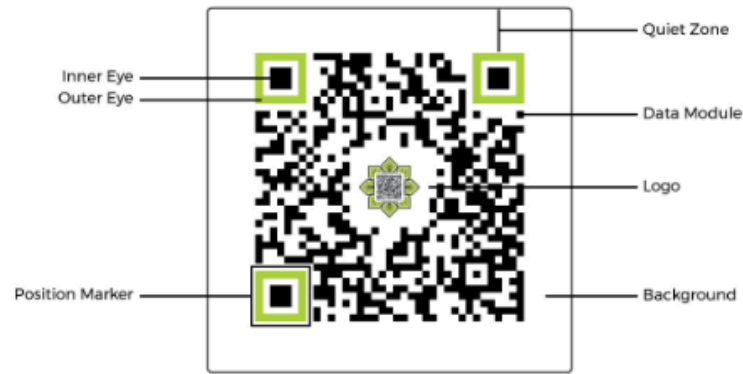
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Parts of a QR code

The most important parts of a QR code are:

- **Data module**. This is the standard unit of the QR code. It's typically a black square set against a white background. Though the colors and contrast can be different, black-on-white is the most optimal when creating a custom QR code. The arrangement of these black squares, or data modules, is what makes up the majority of a QR code.

Source: https://www.sproutqr.com/blog/how-do-qr-codes-work#:~:text=In%20the%20QR%20code%2C%20the,back%20to%20the%20original%20URL.

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Exhibit 4 to the Original Complaint.

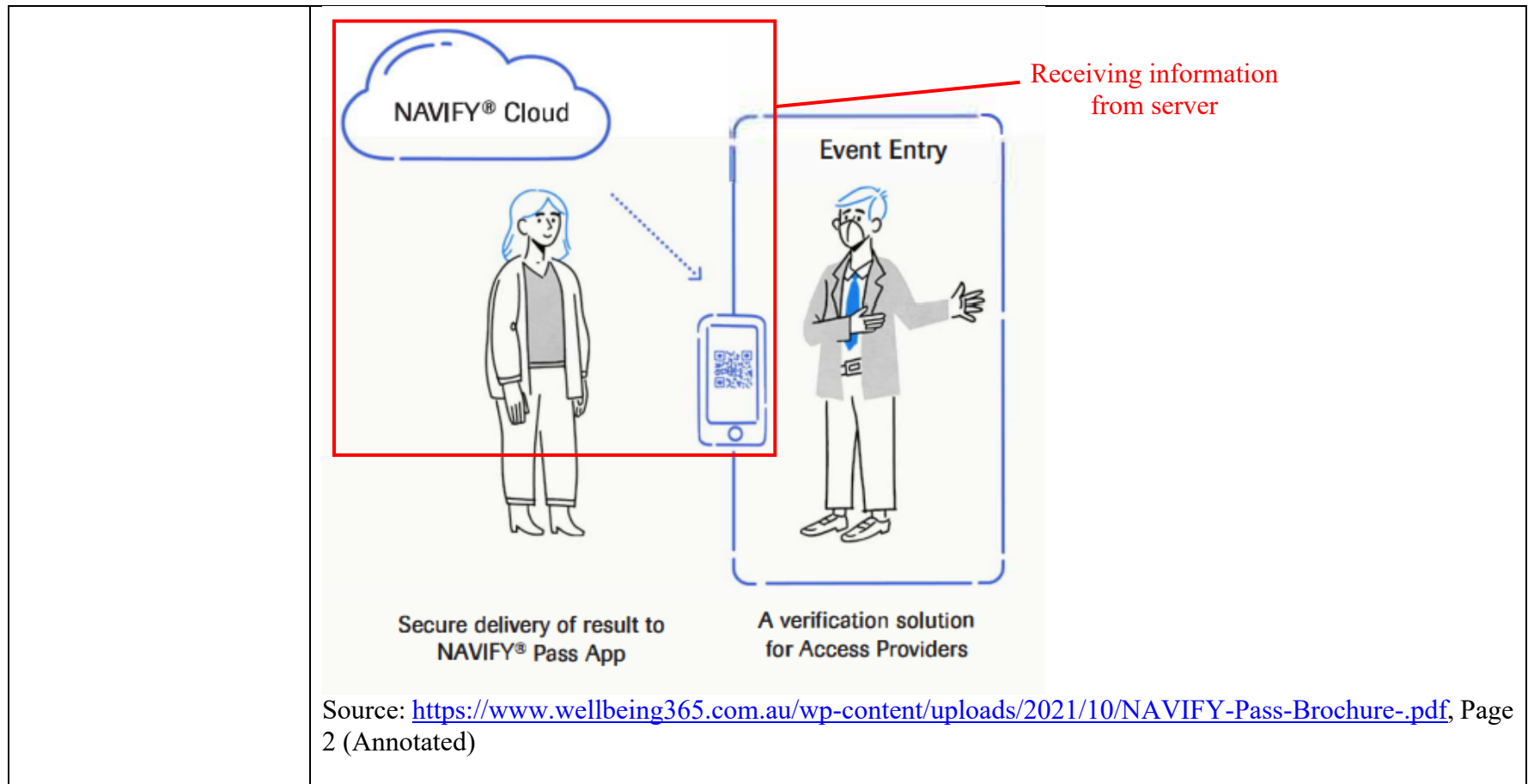|	
	In the QR code, the arrangement of the squares—or data modules, as they're called—is actually our URL. It's just been translated from the alphanumeric string of the URL into a collection of squares. That's how you go from link to QR code. A QR code scanner will then translate it *back* to the original URL. Source: https://www.sproutqr.com/blog/how-do-qr-codes-work#:~:text=In%20the%20QR%20code%2C%20the,back%20to%20the%20original%20URL. QR codes consist of black squares arranged in a grid (matrix) on a white background and are read by specialized software that is able to extract data from the patterns that are present in the matrix. These codes are capable of containing more information than traditional barcodes, and primarily handle four modes of data: alphanumeric, numeric, binary, and Kanji. Source: https://www.investopedia.com/terms/q/quick-response-qr-code.asp Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Defendant.
[1.4] sending the decode string to a remote server for processing;	Company performs and induces others to perform the step of sending the decode string to a remote server for processing. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, upon detecting the QR code and obtaining a decode string, the 'NAVIFY Pass Professional' mobile application sends the decode string to NAVIFY cloud ("remote server") for retrieving the information such as test results of the visitor.

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Source: https://www.wellbeing365.com.au/wp-content/uploads/2021/10/NAVIFY-Pass-Brochure-.pdf, Page 2 (Annotated)

Exhibit 4 to the Original Complaint.
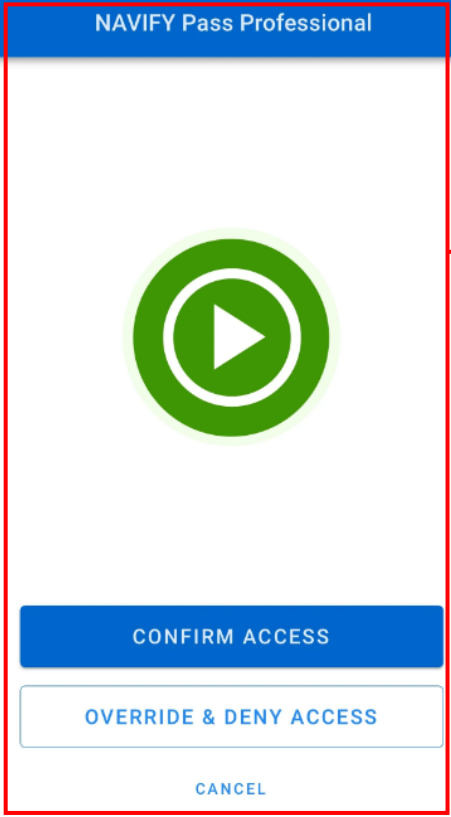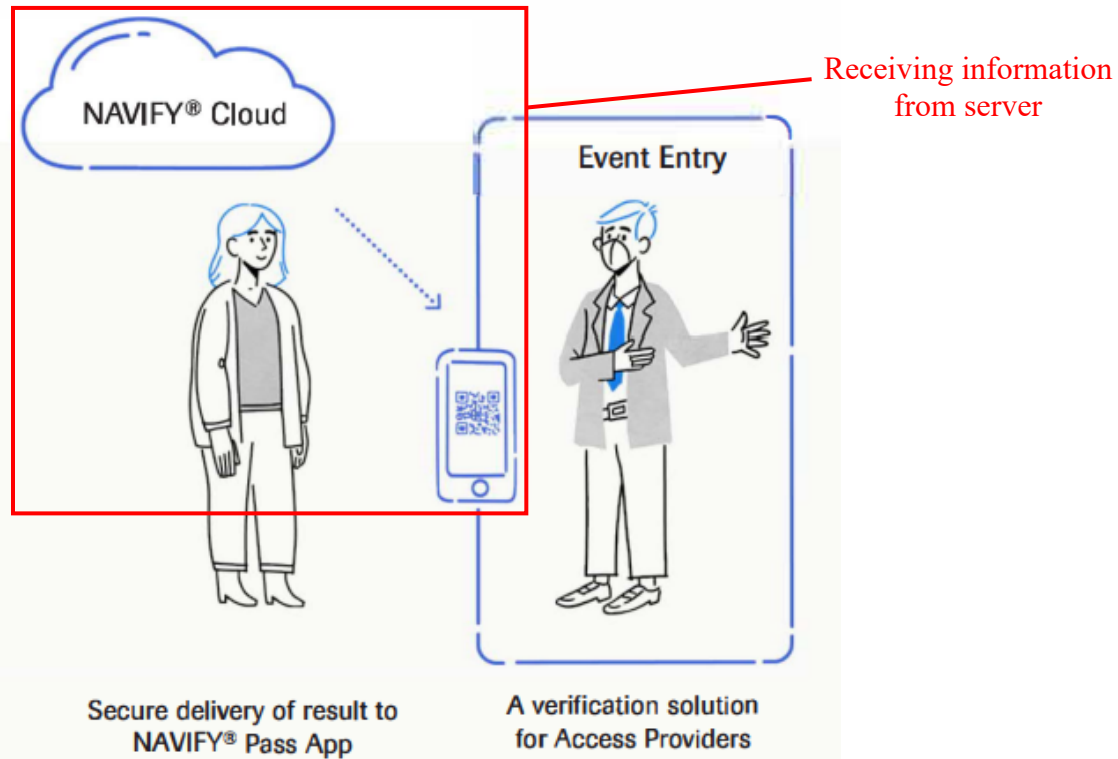

Authenticator's interface for allowing/denying visitor's access

Source: https://play.google.com/store/apps/details?id=com.rochedhs.nrm.passport.nurse&hl=en_IN&gl=US (Annotated)

Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Defendant. |
| [1.5]   receiving information about the digital image from the remote server wherein | Company performs and induces others to perform the step of receiving information about the digital image from the remote server wherein the information is based on the decode string.

This element is infringed literally, or in the alternative, under the doctrine of equivalents. |

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the information is based on the decode string;	For example, the 'NAVIFY Pass Professional' mobile application accessible on the user's mobile phone receives the information such as test results from the remote server based on the decoded QR code. Source: https://www.wellbeing365.com.au/wp-content/uploads/2021/10/NAVIFY-Pass-Brochure-.pdf, Page 2 (Annotated)

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Source: https://play.google.com/store/apps/details?id=com.rochedhs.nrm.passport.nurse&hl=en_IN&gl=US (Annotated)

NAVIFY Pass Pro Access can be used in the near future to verify test results at the door of an event or meeting.
Source: https://diagnostics.roche.com/nl/en/innovation/navify-pass.html

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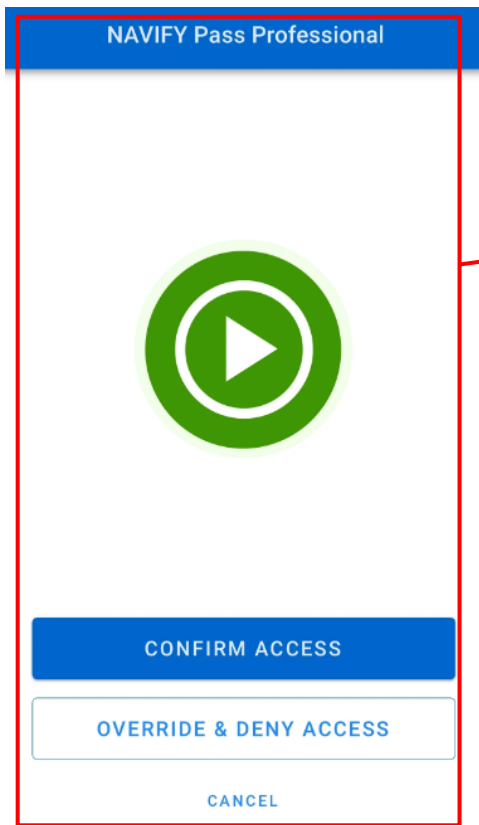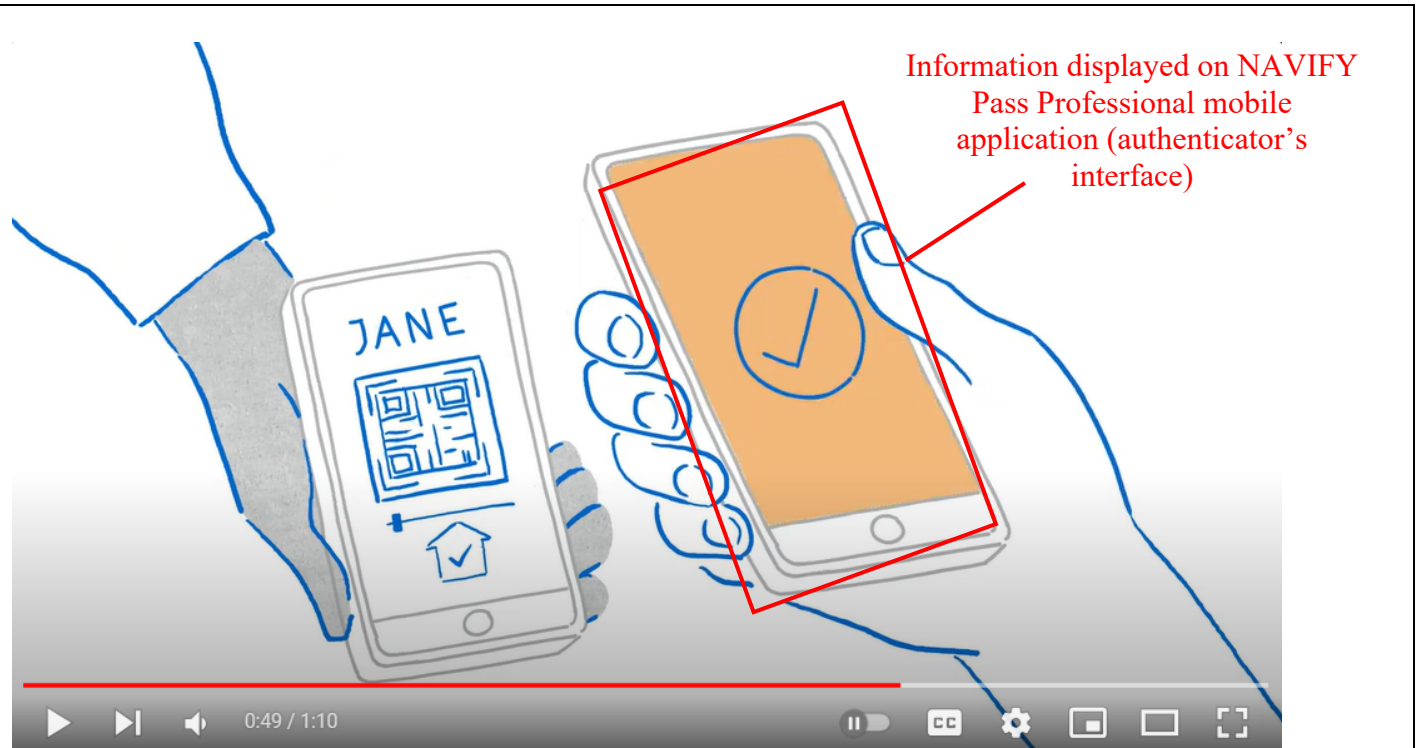
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[1.6] displaying the information on a display device associated with the electronic device.	Company performs and induces others to perform the step of displaying the information on a display device associated with the electronic device. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, the received information is displayed on the screen ("display device") of ("associated with") the user's mobile phone ("electronic device"). Source: https://play.google.com/store/apps/details?id=com.rochedhs.nrm.passport.nurse&hl=en_IN&gl=US (Annotated)

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Exhibit 4 to the Original Complaint.

Source: https://www.youtube.com/watch?v=wCUivFJHAc0 (Annotated)

Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Defendant.

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2. List of References

1. https://play.google.com/store/apps/details?id=com.rochedhs.nrm.passport.nurse&hl=en_IN&gl=US, last accessed on December 18, 2023.
2. https://play.google.com/store/apps/details?id=com.rochedhs.nrm.passport.patient&hl=en_IN&gl=US, last accessed on December 18, 2023.
3. https://www.wellbeing365.com.au/wp-content/uploads/2021/10/NAVIFY-Pass-Brochure-.pdf, last accessed on December 18, 2023.
4. https://diagnostics.roche.com/nl/en/innovation/navify-pass.html , last accessed on December 18, 2023.
5. https://www.youtube.com/watch?v=wCUivFJHAc0, last accessed on December 18, 2023.
6. https://www.sproutqr.com/blog/how-do-qr-codes-work#:~:text=In%20the%20QR%20code%2C%20the,back%20to%20the%20original%20URL., last accessed on December 18, 2023.
7. https://www.investopedia.com/terms/q/quick-response-qr-code.asp, last accessed on December 18, 2023.
8. https://vimeo.com/538550959, last accessed on December 18, 2023.